

Date June 2, 1999

From

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Box PATENT APPLICATION
Assistant Commissioner
for Patents
Washington, D.C. 20231

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By: Elva WilsonPrinted/Typed Name: Elva Wilson

Sir:

Transmitted herewith for filing under 37 C.F.R. 1.53(b) is a(n):

- ☒ Utility
☒ Original patent application,

Inventor(s): **Salim G. Kara**For: **VERIFYING THE AUTHENTICITY OF PRINTED DOCUMENTS**

Enclosed are:

1. ☒ 25 pages of written description, claims and abstract.
2. ☒ 9 sheets of drawings.
3. ☒ Combined Declaration and Power of Attorney.
 - (a) ☒ Newly executed (original or copy)
 - (b) ☐ Copy from prior application (37 CFR 1.63(d))
(for continuation/divisional if Box 5 completed)

[Note Box 5 below]

4. ☐ Incorporation by Reference (useable if Box (b) is checked).

The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 3(b), is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

5. ☐ If a **CONTINUING APPLICATION**, check appropriate box and supply the requisite information:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: ____/____.

6. ☐ Assignment Papers (cover sheet and document(s)) of the invention to
7. ☒ A verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27.
8. ☐ Information Disclosure Statement and Form PTO-1449. ☐ Copies of IDS Citations.
9. ☐ Preliminary Amendment

Date June 2, 1999

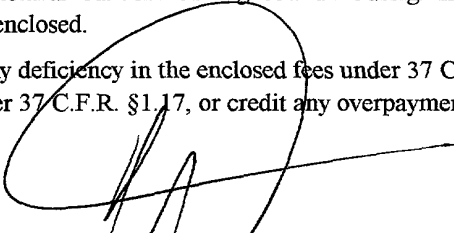
10. ☒ Return Receipt Postcard (MPEP 503) *(should be specifically itemized)*
11. ☐ Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
12. ☐ Other: _____

13. Utility Fee Calculation

CLAIMS AS FILED				
Fee for:	Entity		Amount	
	<input checked="" type="checkbox"/> Small	<input type="checkbox"/> Other		
Basic fee	\$380.00	\$760.00	\$380.00	
Each independent claim in excess of 3	5 x \$39.00	[x \$78.00	\$195.00	
Each claim* in excess of 20	44 x \$ 9.00	[x \$18.00	\$396.00	
Multiple dependent claim (one-time fee)	\$130.00	\$260.00	\$0.00	
*Including the total number of claims to which direct reference is made in all multiple dependent claims			TOTAL FILING FEE	\$971.00

Method of Fee Payment

14. ☒ A check in the amount of \$971.00 to cover the filing fee is enclosed.
15. ☐ A check in the amount of \$40.00 to cover the assignment recordal fee is enclosed.
16. ☐ Please charge my Deposit Account No. 06-2380 in the total amount of the filing fee and the assignment recordation fee, if any. A duplicate of this Transmittal Letter is enclosed.
17. ☒ The Commissioner is hereby authorized to charge any deficiency in the enclosed fees under 37 C.F.R. §1.16, or to charge any patent application processing fees under 37 C.F.R. §1.17, or credit any overpayment, to Fulbright & Jaworski L.L.P. Deposit Account No. 06-2380.


 David H. Tannenbaum
 Reg. No. 24,745
 Counsel for Applicants

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

- ☒ In re application of Applicant or Patentee: Salim G. Kara
☐ Serial or Patent No.: Unknown
☒ Filed or Issued on: June 2, 1999

Title: VERIFYING THE AUTHENTICITY OF PRINTED DOCUMENTS

**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(b))--SMALL BUSINESS CONCERN**

I hereby state that I am

- ☐ the owner of the small business concern identified below:
☐ an official of the small business concern empowered to act on behalf of the concern identified below:
☒ independent inventor(s) identified below:

I hereby state that the above identified small business concern qualifies as a small business concern, as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office under Sections 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third-party or parties controls or has the power to control both.

I hereby state that rights under contract or law have been conveyed to, and remain with, the small business concern identified above, with regard to the invention described in

- ☒ the specification filed herewith, with title as listed above.
☐ the application identified above.
☐ the patent identified above.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights in the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c), if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each such person, concern or organization having any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.
☐ Each such person, concern or organization is listed below.

☒ INDIVIDUAL

☐ SMALL BUSINESS CONCERN

☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small business entity is no longer appropriate. (37 CFR 1.28(b))

☒ I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name of Person Signing:

Salim G. Kara


Title of Person if Other Than Owner:

Address of Person Signing:

17 Bayview Forest Lane, Thornhill, Ontario, Canada L3T7S4

SIGNATURE:

Date:

 G. KARA
June 2, 1999

VERIFYING THE AUTHENTICITY OF PRINTED DOCUMENTS

Salim G. Kara

17 Bayview Forest Lane
Thornhill, Ontario, Canada L3T7S4
Citizenship: Canadian

TECHNICAL FIELD

This invention relates to electronic commerce in general and in particular to a system and method for establishing the authenticity of a past electronic communication at the point of the consummation of the commercial endeavor which is the subject of the electronic communication.

BACKGROUND

Electronic commerce is everywhere now. People are using the Internet, as well as other remotely accessible locations, such as kiosks, to order goods and/or services. Some of these services require verification of prior payment and/or reservations at the time the service is being offered which typically is sometime after the actual purchase (or reservation) was made. For example, assume a person desires to reserve a seat on an airplane, or a room in a hotel, or a rental car, or a seat in a theatre, all from a remote terminal. Typically, that person would get into communication contact with a reservation system. This communication can be with a live person at the selling end or could be with a computer acting in an interactive mode or a combination of the two. The reservation would be made and arrangements would be made to pay for the reservation. Then the problem arises; how does the purchaser demonstrate to the gatekeeper at the airline (or to the rental car gatekeeper; or to the theatre usher) that the service has been paid for?

The obvious answer is that a ticket, or other indicia of the transaction, is printed at the purchaser's terminal and that printed ticket is used to identify that the services have been paid for. That might work when the paper stock that the receipt information is printed on is closely guarded and very distinctive. It will not work for obvious reasons where general purpose printers are used to print the receipt at the purchaser's premises.

If electronic commerce is to flourish then it is mandatory to have an arrangement whereby the purchaser can obtain immediately upon purchase a printed verification of the transaction in a manner which allows for universal printing while still allowing the printed receipt to act as a final verification of authenticity at the point where the actual services are rendered.

SUMMARY OF THE INVENTION

These and other objects, features and technical advantages of my invention have been achieved in one embodiment where a system and method is utilized for establishing a commercially available partially preprinted form where the form has printed on it information used by the service seller during the initial transaction communication period for establishing integrity control for subsequent verification. In one embodiment, the form is available to any purchaser for use with any general purpose printer operable in conjunction with a PC or other communication/computing device, including so called "dumb" terminals. This form is advantageously preprinted with both human readable data and machine readable data. As will be seen, the machine readable data, which I will call an indicia, contains key information which serves to help decode material that is subsequently printed on the form under control of the central validating system.

In operation, the purchaser enters into an interaction communication with the seller of the service. This may be, by way of illustration, from the purchaser's PC at his/her home via the Internet to a web site maintained by the seller. The user has obtained one or more preprinted paper forms from a supplier of forms. The weight of the paper is not critical and the forms may be any weight stock. The user inputs the human readable data from the exact preprinted form that the user intends to use. This input can be by verbally reading the data or by scanning the data or by any other system. In situations when there is no human readable material preprinted on the form, the user would scan in the machine readable portion. Some portion of the preprinted data is unique to the exact form selected by the user at that time.

The seller, upon receipt of the unique data from the user pertaining to the selected form, verifies that this exact form identification number has not been previously used. Since each preprinted form has a unique identification code, this initial screening process insures that a copy of the preprinted form is not being used. The seller then uses the unique identification number to establish an encryption code for printing on the form a machine readable security

indicia. It will be this security indicia that will subsequently be used in conjunction with the original preprinted indicia to verify the authenticity of the information to be printed on the form. The seller then sends information to user so that the user's printer will print on the form all of the information that will be used by the purchaser to subsequently obtain the service.

5 When the purchaser arrives at the location where the services are to be rendered (in our example, at the airport) the purchaser's form will contain luggage labels (printed when the security indicia was printed) and a boarding pass. A receipt will also be printed at the time the security indicia was printed. The boarding pass contains all of the information necessary to properly route the luggage to the final destination. This routing information may be both human readable and mechanically readable, perhaps in several different formats.

10 For verification of the authenticity of the boarding pass and/or the luggage tags, the original preprinted indicia is read to obtain a decryption key. This key is then used to decrypt information stored in the security indicia that was printed at the time the remainder of the form information was printed. If the key is not present on the preprinted form, or if the key differs from the key assigned to that form in conjunction with the human readable data that was inputted by the purchaser during the initial payment and/or scheduling session, then the data on the form will not be verified and the holder of the form (boarding pass) will be denied service.

15 Note that the printer can be any printing device for creating images on paper, or it could be a device for storing images which can later be displayed to obtain the goods and or services. For example, the image can be created into a memory and that memory can be later used to create a display, or to print a paper or other media copy, which is scanned or observed by a gatekeeper at the point where the services are to be rendered. The recreated image can be electronically scanned using the preestablished key to decode the newly created validity information. Such a system can be useful when a memory device, such as a smart card or PC, 20 is used to gain access to a theatre, to rent a car or to board an airplane. In such a system, the memory device interacts with the seller of the service at an earlier point in time, usually several days or weeks earlier, and during that interaction availability of the service is confirmed, a

reservation is made, payment is arranged for, seat assignments issued, and images (or other forms of data) are recorded in the memory in a manner such that such images will not be verifiable unless they are decoded using some portion of the preestablished memory data.

The foregoing has outlined rather broadly the features and technical advantages of the present invention in order that the detailed description of the invention that follows may be better understood. Additional features and advantages of the invention will be described hereinafter which form the subject of the claims of the invention. It should be appreciated by those skilled in the art that the conception and specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present invention. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the invention as set forth in the appended claims.

BRIEF DESCRIPTION OF THE DRAWING

For a more complete understanding of the present invention, and the advantages thereof, reference is now made to the following descriptions taken in conjunction with the accompanying drawing, in which:

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FIGURE 1 shows a sample preprinted blank form;

FIGURE 2 shows the form of FIGURE 1 having created thereon luggage tags and a boarding pass;

FIGURE 3 shows a typical user workstation;

FIGURE 4 shows a typical seller work system;

10

FIGURE 5 shows a typical point of sale verification system;

FIGURE 6 shows a simple algorithm for authenticating the printed form;

FIGURES 7A-7C show a series of preprinted blank forms; and

FIGURES 8A-8D show tickets printed using the blank forms of FIGURES 7A-7C.

DETAILED DESCRIPTION

Turning now to FIGURE 1, form 10 is the original display media which, in one embodiment, can be ticket stock printed with indicia 16 thereon. Indicia portion 16a can be a machine readable portion of the indicia (which can be, for example a Universal Bar Code, an Intermec Corporations' Code 49, or a Laser Light System Inc.'s Code 16K, or any other type of machine readable code) and portion 16b is a human readable portion. Note that for the purposes of this invention the indicia can be entirely machine readable or entirely human readable, if desired. In addition, the human readable portion could be a different form of the indicia, such as bar codes that can be machine readable. In the embodiment, form 10 is divided into sections 11, 12, 13, 14 and 15 each separable by perforated lines 102, 103, 104. These lines can be traditional perforations, or they can be simple folds. In some situations there need not be any perforations or folds.

As will be seen in FIGURE 2 for an airline ticket portion 13 of ticket stock 10 is printed with the necessary boarding information. In such a situation, section 14 would be the passenger's copy of the boarding pass, section 15 would be the passenger's receipt, and sections 11 and 16 would be the luggage tags that would be preprinted. Thus, the luggage tags can be removed from the printer and ticket stubs 13, 14 and 15 can be separated along the perforation lines. Paper on the backing of the ticket stub area (not shown) can be removed to reveal a portion which has a sticky substance thereon which would allow the tags to be placed in the traditional manner on the luggage to form a loop around the handle.

Turning now to FIGURE 3, a user using system 30 who has obtained one or more portions of ticket stock 10 places a ticket form or a series of ticket forms 10 in paper tray 360 of printer 36 which is connected to processor 33, which in turn accepts inputs back and forth between keyboard 32, display 31, scanner 34 and communication control 35. The user then makes communication contact with a seller (FIGURE 4) via communication control 35 and signal link 301. Signal link 301 could be wireless, wireline, or any other combination system. The internet can be used for this purpose or direct phone line connections combinations thereof. In a typical situation, software would be controlled by processor 33 and the user of

5 keyboard 32 and display 31 would interact with the seller at system 40 FIGURE 4 to arrive at a desired flight, cost, time, seat assignment, return trip or intermediate stops. This would all be accomplished in a well known fashion, either verbally on both parts, or by one or both parties communicating without the intervention of a human on either of both sides. The user at system 30 and the seller at system 40 come to a meeting of the minds with respect to the payment and other terms. The user at 30, either verbally or via scanner 34 (which can be part of printer 36 if desired) reads off the human readable portion of code 16b shown in FIGURE 1.

10 This data is communicated via link 301 to communication control 41 and processor 42. Processor 42 operates in conjunction with data base 43 and determines whether the code that has just been received from the preprinted form is a valid code. This determination can be based upon several factors, one factor being that the code has never been used before, thereby ensuring that it at least appears to be unique to this form. Also, the verification can determine whether the code number is within an acceptable range for this user. Various other
15 parameters can be checked. In one embodiment, processor 42 working in conjunction with data base 43, would know that the original machine readable indicia on ticket stock 10 portion 16a has contained within it a particular key which had been preassigned prior to the printing of the ticket stock. Processor 42 then utilizes a coding algorithm which is secret to it, but which is based on the key contained in the original printed indicia. Utilizing this information,
20 processor 42 formulates a printed message which is transmitted via communication channel 301 to FIGURE 3 system 30 and via communication control 35 to processor 33 which then controls printer 36 to print the ticket such as is shown in FIGURE 2.

25 Note that the printed ticket in FIGURE 2 has a second indicia 21 which is machine readable similar to indicia 16a and decodable only by utilizing the key which is contained in indicia 16a. Indicia 21 has been especially created by processor 42 in FIGURE 4 under control of the previously transmitted data from the buyer and will serve to verify the authenticity of the ticket when the user arrives at the terminal for boarding the airplane, or when the user, in another situation, arrives at a theater. The printed control indicia is

5 compared using the embedded key from the original indicia to decode the printed indicia to authenticate the validity of the ticket. As previously discussed, this can be used for renting cars where the actual information is given to the user preprinted ahead of time at the user's location and the printed indicia is used to allow the car to be removed from the lot via the mechanism above described. Note that more than one control indicia, or key indicia, can be printed on any form.

Turning now to FIGURE 5, when the user arrives at the point of utilization, i.e., the boarding gate of the airline, bus station, train station, or at the exit gate of the rental car agency, or at the entrance to the theater (so that the preprinted commercial transaction is about to be authenticated and the services actually rendered based upon a preestablished commercial transaction between the parties) reader 51 reads the information that is on the preprinted ticket including the original indicia 16a and the new indicia 21. This information is provided to processor 52 which then extracts the key from the data contained in indicia 16 for decoding the data in indicia 21, thereby enabling a determination that the passenger is okay to go, via display 54, or that the ticket is not valid, via display 55. Processor 52 can transmit and receive information via communication control 56 overlink 501 to communication control 41 in FIGURE 4. The purpose of this link can be two fold if desired. 1) When the initial transaction is consummated, processor 42 can operate to transmit the information via link 501 to processor 52 and its database (not shown) indicating that certain information has been printed on various tickets. This would serve as a further backup to the decision process at the time of offering of the services since the indicia that has been printed is expected at that period of time from the information given at the time of the booking. For example, seat information and other information including information pertaining to the printed indicia 21 can be communicated to processor 52 so that when printed indicia 21 is presented, processor 52 can utilize its intelligence to determine the validity of the printed indicia to further check that copies are not made and that the services are not given to the wrong person or to many people utilizing the same numbers.

This system cuts down on fraudulent operations and even if an unscrupulous operator were to make copies of a printed ticket, only one such ticket could be processed at processor 52 because the second one would block since it would no longer be valid for transport or for the rendition of services. Thus, the user of the ticket stock would be in no different position than if the user were to obtain a ticket and have somebody steal the ticket and/or copy the ticket, since control indicia 21 would only have been printed upon the consummation of a commercial transaction, which implies that a means of payment had been agreed upon between the parties.

Turning now to FIGURE 6, a simple flow chart is shown to show the operation just described and box 601 of the ticket is read and box 602 determines if the format of the entire ticket including indicia 16a and 21 is accurate and proper. In this respect there can be, if desired, interaction between information at the local service rendering position and the central data base box 604. If the format is wrong, the transaction is stopped via box 602. If the format is proper, then the original indicia is read box 603 to determine the key which would be used to decode indicia 21 prior to such utilization of the key. The key is checked via box 605 to determine if it is a valid key. Again this validity check can be done in cooperation with information received from the central data base, if desired, via box 604. If it is a valid key, then the key is used to decode the information from the printed indicia box 606 which provides information to processor 607 which verifies the authenticity of the data on the remainder of the ticket and determines (optional) if the parameters (time, date, sequence, etc.) are correct for the passenger of this receipt box 609. Again this information can be used to update the central processor if desired to maintain central control. Box 610 controls whether the bearer may board or enter the feeder or remove a car from the lot or any other commercial transaction controlled by the ticket or other display utilized at the time of the actual rendering of the service or the obtaining of the goods where the goods or services have been paid for in a prior arranged commercial transaction.

Note that while we have been discussing airlines and rental cars and theaters, this same procedure can be used to obtain merchandise at one point in time where the merchandise has

been preordered and prepaid for and receipts generated at a home or office at a general purpose printer using special paper stock which has been printed on a unique identification code. These codes have been used to create a separate indicia which is coded with a decoding being controlled by a key obtained from the originally printed indicia. Also note that while we have been discussing material forms, this system could work just as well with an electronic display device visual or otherwise where certain portions of the data can be electronically coded and subsequently decoded utilizing a key which is contained in the original information.

FIGURE 7A shows blank stock 70 which has been divided into three sections 71, 72, 73 each having printed thereon an indicia 16, which has a machine readable part and a human readable part. Note that the last two digits in our example 02, 07 and 08 are individual to each form with respect to sections 71, 72 and 73 and need not be in sequential order. These individual last digits could signify the actual sheet number of a form 70 or the individual section number. FIGURE 7B has three more sections 74, 75, 76 and FIGURE 7C has an additional two sections 77, 78. These sections could all be part of one long roll of forms or could be different form sheets with different numbers of blanks thereon.

Turning to FIGURE 8, a user having a sheet of blank form 70 inserted in the user's printer may order a series of tickets for different sporting events, theaters, lotteries and the like. The user upon connection to a common server which serves several different such sporting events may order and pay for the tickets which will be printed as discussed above. These are shown in FIGURES 8A and 8B.

Note that indicia 16 can be printed on the sheet and can include either or both machine readable and human readable sections and also this mark may be presented to the users in various forms, one of which could be watermarks built into the paper which could be uniquely identified if desired. Also note that this system could be utilized for printing travelers checks and other commercial paper following the procedures outlined above. These checks would then have printed on them the proper logos and markings for signature by the user when the user utilizes the printed "check" to purchase goods or services. The check would have printed on it the printed indicia as well as the initial indicia so that the acceptor of the travelers check

could, if desired, run the check through a scanner or other reading device to determine the authenticity of the check.

Note also that when a consumer is ordering tickets, the ordering need not be from the same seller but may be from a plurality of sellers. For instance, the user may call for baseball tickets to one seller, football tickets to another and perhaps call for tickets at a distant city. In each case, the seller would utilize the information transmitted by the seller which is unique to the ticket stock currently in the printer. This information would be communicated by the seller's system to a central database to determine what physical position on the ticket stock this particular ticket should be printed and to also determine whether the unique number identified with this ticket has been previously utilized. Thus, user can have printed at their own printers tickets for many diverse events using this system.

Note also that while in the embodiment, the purchaser transmits the unique data pertaining to the stock material to the seller, a system could be devised whereby the unique information is sent by a third party in response to a trigger supplied by the user. This trigger could be automatically generated by the printer scanning the paper and accessing a remote or local data base, or by the data base keeping track of the user's use of the stock and sending the next number in a sequence. The unique code on the stock could, for example, be printed at the time of the transaction under control of a source other than the seller.

Although the present invention and its advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the invention as defined by the appended claims. Moreover, the scope of the present application is not intended to be limited to the particular embodiments of the process, machine, manufacture, composition of matter, means, methods and steps described in the specification. As one of ordinary skill in the art will readily appreciate from the disclosure of the present invention, processes, machines, manufacture, compositions of matter, means, methods, or steps, presently existing or later to be developed that perform substantially the same function or achieve substantially the same result as the corresponding embodiments described herein may be utilized according to the present

invention. Accordingly, the appended claims are intended to include within their scope such processes, machines, manufacture, compositions of matter, means, methods, or steps.

100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

WHAT IS CLAIMED IS:

1. A method for establishing the validity of a display created by a general purpose creation device, said method comprising the steps of:

placing in said device media upon which information may be created, said media having preestablished thereon data which is unique to said media;

5 communicating at least a portion of said preestablished data to a location independent from said device, said independent location operable to create on said media a security indicia, said security indicia created in part by information contained in said preestablished media data and whereby said security indicia is validatable at a subsequent time partially under control of data contained in said preestablished media data.

2. The method of claim 1 wherein said media is paper, and wherein said device is a general purpose printer.

3. The method of claim 2 wherein said paper is divided into sections, each section adapted for printing thereon information pertaining to a different function, each such function having associated therewith a security indicia.

4. The method of claim 3 wherein at least one portion of at least one of said sections contains means for allowing at least that section to become disassociated from the other sections.

5. The method of claim 4 wherein said disassociated section contains means for attaching said section to an object.

6. The method of claim 5 wherein said object is luggage and wherein the material printed on said section includes destination information of said luggage corresponding to destination information printed on at least one other section of said media.

7. The method of claim 5 wherein said attaching means includes a sticky surface selectively exposable by a user of said section.

8. The method of claim 1 wherein created source of ones of said security indicia is validated by key information contained in at least a portion of said preestablished data.

9. The method of claim 7 wherein said key information is contained in a machine readable portion of said preestablished data.

10. Ticket stock for creating thereon human perceivable images, said stock having at least one data source unique to said stock;

wherein said unique data source includes human readable data for communicating to a third party; and

5 wherein said stock is adapted to accept human readable display material from a remote location, said display material means authenticated under partial control of at least a portion of said unique source data.

11. The stock of claim 10 having separable portions pre-established thereon.

12. The stock of claim 11 wherein different portions of a receipt are printed on selected ones of said portions.

13. The stock of claim 12 wherein at least one of said portions has adhesive on at least a portion thereof.

14. The stock of claim 13 wherein said adhesive is controllably and selectively exposed.

15. The method of displaying on a medium a control indicia, said control indicia operable at the point of commercial use of said media for validating the authenticity of said commercial transaction; said method comprising the steps of:

communicating unique data from the location of said media to a location remote therefrom, said communication being a part of a commercial transaction such that the media will subsequently become the passport to the actual obtaining of commercial services associated with said commercial transaction; and

communicating data from said remote location to said media location, a certain a portion of said data for human readable display in conjunction with said media and a portion of said data being a coded control indicia, said control indicia based at least in part on said communicated unique information.

16. The method of claim 15 further including the step of decoding the control indicia using a portion of said unique data from said display location thereby validating the human readable portion of said display data.

17. The method of claim 15 wherein said media is a printable medium having said unique data preprinted thereon.

18. A system for creating an indicia of value for use at a point of commercial transaction to allow for authentication by a gatekeeper at such transaction point, such authentication verifying that the indicia, which was printed on printable stock by a non-secure printer is, in fact, authentic, said system comprising:

5 means for accepting from a potential user data unique to a particular piece of said printable stock;

a data base;

means for comparing said accepted data with data stored in said database to determine if said unique data had been previously accepted; and

10 means operable under control of said comparing means for providing a set of coded control data for printing on said printable stock, said control data being decodable, in part, under control of key data associated on said printable stock with said unique data.

19. The invention set forth in claim 18 wherein said unique data includes a machine readable portion and a human readable portion.

15 20. The invention set forth in claim 19 wherein said human readable portion is the unique data accepted by said accepting means.

21. The invention set forth in claim 19 wherein said key data is included within said machine readable portion.

22. The invention set forth in claim 18 wherein said data base is common to a plurality of physically diverse accepting means.

23. The invention set forth in claim 18 wherein at least a portion of said unique data is embedded within the printable stock.

24. The invention set forth in claim 23 wherein said embedded data includes a watermark.

25. The invention set forth in claim 18 further including:
means for printing on said printable stock information having a commercial value indicative that the bearer of said printed stock is entitled to a particular good or service.

26. The invention set forth in claim 25 wherein said good or service is the passage via public transportation.

27. The invention set forth in claim 25 wherein said good or service is the passage into an event.

28. The invention set forth in claim 18 further including:
means for printing on said printable stock information having a commercial value indicative that the printed stock is entitled to be treated as commercial paper having the value printed thereon.

29. The method of creating at a purchaser's location a receipt indicative of a prior transaction between the purchaser and a seller of service, said receipt having self proving capability, said method comprising the steps of:

communicating to said seller data which is unique to the material upon which the receipt is to be generated;

said seller verifying satisfaction with said unique data;

said seller communicating to said purchaser display data for associating with said display material, said display material operable at said purchaser's location for creating said receipt; said seller transmitted display data including at least one machine decodable portion, the key to said decodable portion contained within at least a portion of data which is unique to said receipt material.

30. The method of claim 29 wherein said unique data is preassociated with said receipt material.

31. The method of claim 29 wherein said unique data is printed on said receipt material, and contains both a human readable portion and a machine readable portion.

32. The method of claim 29 wherein said receipt material is stock printable from a printer located at the purchaser's location.

33. The method of claim 32 wherein said unique data is established on said printable stock prior to said communication with said seller.

34. The method of claim 33 wherein said stock has multiportions and wherein said method is operable for printing different data on selected portions of said stock.

35. The method of claim 34 wherein at least one of said portions is a luggage ticket and another of said portions is a boarding pass.

36. The method of claim 29 wherein said verifying step includes checking to insure that the unique data is not a duplicate.

37. The method of claim 32 wherein said checking step is local to said seller.

38. The method of claim 32 wherein said checking step is remote to said seller and shared between a plurality of other sellers all having the possibility of communication access with said purchaser from time to time.

39. The method of claim 29 wherein said purchaser may have communication access to a plurality of sellers, each seller having the capability of sending different display data.

40. The method of claim 29 wherein said verifying step includes accessing a data base common to all of said sellers.

41. The method of claim 29 further including the step of:
transmitting from the seller to a transaction data base data pertaining to the transaction which is the subject of said receipt.

42. The method of claim 29 further including the steps of:

presenting said receipt to a gatekeeper at a transaction location; and

said gatekeeper verifying the authenticity of said receipt under control of data which is unique to said receipt.

43. The method of claim 42 wherein said gatekeeper verification step includes the step of:

obtaining said key from said unique data.

44. The method of authenticating data on a transaction receipt, said method comprising the steps of:

presenting said receipt to a gatekeeper; and

said gatekeeper authenticating said receipt by decoding a portion of data contained on said receipt under control of a decode key contained within data unique to said receipt.

45. The method of claim 44 wherein said decode key is machine readable.

46. The method of claim 45 wherein said machine readable key is preprinted on said receipt prior to the printing thereon of said receipt data.

47. The method of claim 44 wherein said authenticating step includes the step of determining if this receipt is expected within the presentation parameters.

48. The system of creating a purchaser's location a receipt indicative of a prior transaction between the purchaser and a seller of service, said receipt having self proving capability, said system comprising:

means for communicating to said seller data which is unique to the material upon
5 which the receipt is to be generated;

means associated with said seller for verifying satisfaction with said unique data and for said seller communicating to said purchaser display data for associating with said display material, said display material operable at said purchaser's location for creating said receipt; said seller transmitted display data including at least one machine decodable portion, the key
10 to said decodable portion contained within at least a portion of data which is unique to said receipt material.

49. The system of claim 48 wherein said unique data is preassociated with said receipt material.

50. The system of claim 49 wherein said unique data is printed on said receipt material, and contains both a human readable portion and a machine readable portion.

51. The system of claim 49 wherein said receipt material is stock printable from a printer located at the purchaser's location.

52. The system of claim 48 wherein said unique data is established on said printable stock prior to said communication with said seller.

53. The system of claim 48 wherein said verifying means includes means for checking to insure that the unique data is not a duplicate.

54. The system of claim 53 wherein said checking means is local to said seller.

55. The system of claim 53 wherein said checking means is remote to said seller and shared between a plurality of other sellers all having the possibility of communication access with said purchaser from time to time.

56. The system of claim 48 wherein said purchaser may have communication access to a plurality of sellers, each seller having the capability of sending different display data.

57. The system of claim 48 wherein said verifying means includes means for accessing a data base common to all of said sellers.

58. The system of claim 48 further including:

means for transmitting from the seller to a transaction data base data pertaining to the transaction which is the subject of said receipt.

59. The system of claim 48 further including:

presenting said receipt to a gatekeeper at a transaction location; said gatekeeper enabling means for verifying the authenticity of said receipt under control of data which is unique to said receipt.

60. The system of claim 59 wherein said last-mentioned verifying means includes obtaining said key from said unique data.

61. The system of authenticating data on a transaction receipt, said system comprising
means for presenting said receipt to a gatekeeper; and
means under control of said gatekeeper for authenticating said receipt by decoding a
5 portion of data contained on said receipt under control of a decode key contained within data
unique to said receipt.

62. The system of claim 61 wherein said decode key is machine readable.

63. The system of claim 61 wherein said machine readable key is preprinted on said
receipt prior to the printing thereon of said receipt data.

64. The system of claim 61 wherein said authenticating means includes:
means for determining if this receipt is expected within the presentation parameters.

VERIFYING THE AUTHENTICITY OF PRINTED DOCUMENTS**ABSTRACT OF THE DISCLOSURE**

Preprinted forms are used in a general purpose printing device to allow for the subsequent verification of the authenticity of a printed document such as a ticket for transportation services. In operation, the user accesses the seller of the goods/services and during an information exchange with the seller the user inputs at least a portion of the preprinted data from the form. The seller then uses this information to formulate a printable control indicia which is then printed on the form at the user's location. When the form is subsequently presented to the seller, for example when the user attempts to board an aircraft using the form he/she printed, the preprinted portion of the form is used to obtain a decipher key which in turn is used to decipher the control indicia. Inability to decode the control indicia indicates that the printed material on the form may not be authentic.

6/2/99

FIG. 1

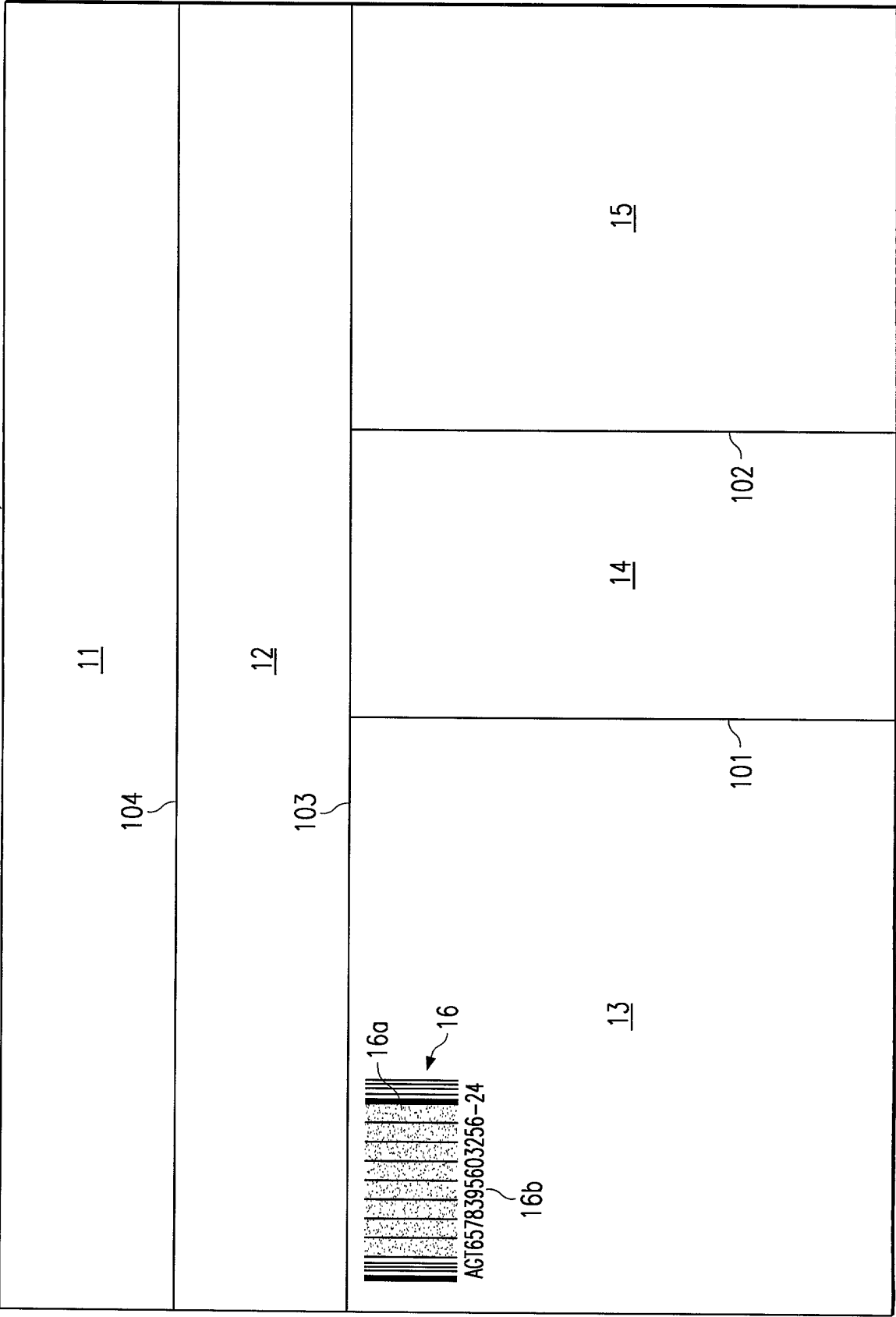


FIG. 2

<p>Mr. Salim G. Kara 1234 Anystreet City, Ont. Canada L3X 7Y4 Tel. YY/707-XXXX</p>	<p>Mr. Salim G. Kara 1234 Anystreet City, Ont. Canada L3X 7Y4 Tel. YY/707-XXXX</p>	<p>Mr. Salim G. Kara 1234 Anystreet City, Ont. Canada L3X 7Y4 Tel. YY/707-XXXX</p>	<p>Mr. Salim G. Kara 1234 Anystreet City, Ont. Canada L3X 7Y4 Tel. YY/707-XXXX</p>	<p>Mr. Salim G. Kara 1234 Anystreet City, Ont. Canada L3X 7Y4 Tel. YY/707-XXXX</p>
<p>11</p>	<p>12</p>	<p>13</p>	<p>14</p>	<p>15</p>
<p>104</p>	<p>103</p>	<p>101</p>	<p>102</p>	<p>100</p>
<p>10</p>	<p>10</p>	<p>10</p>	<p>10</p>	<p>10</p>
<p>10</p>	<p>10</p>	<p>10</p>	<p>10</p>	<p>10</p>
<p>10</p>	<p>10</p>	<p>10</p>	<p>10</p>	<p>10</p>

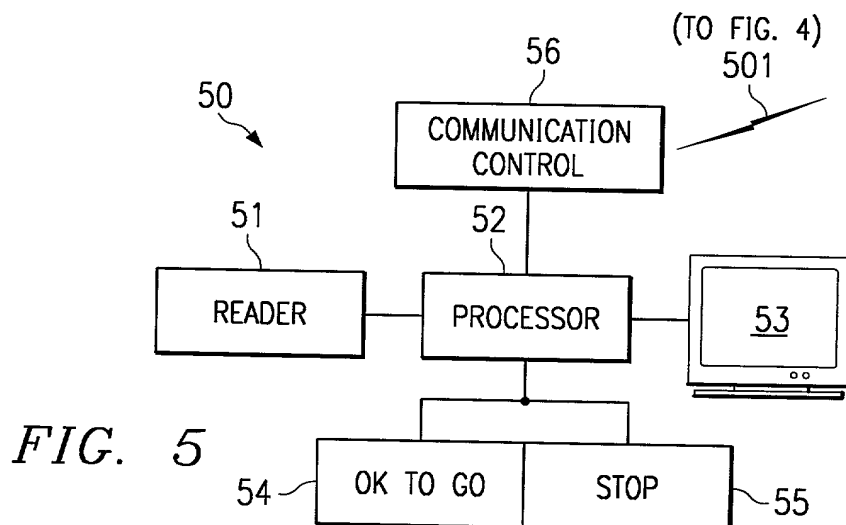
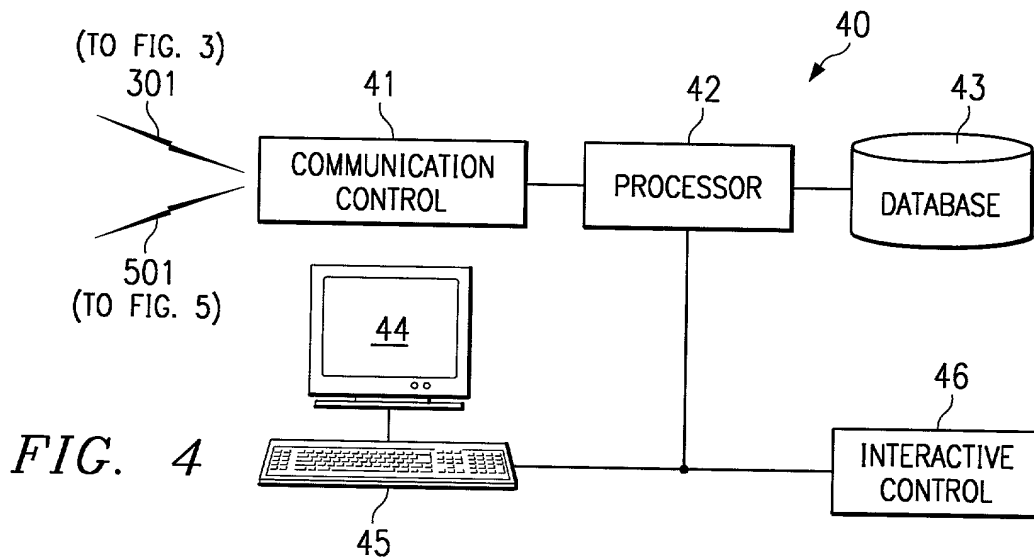
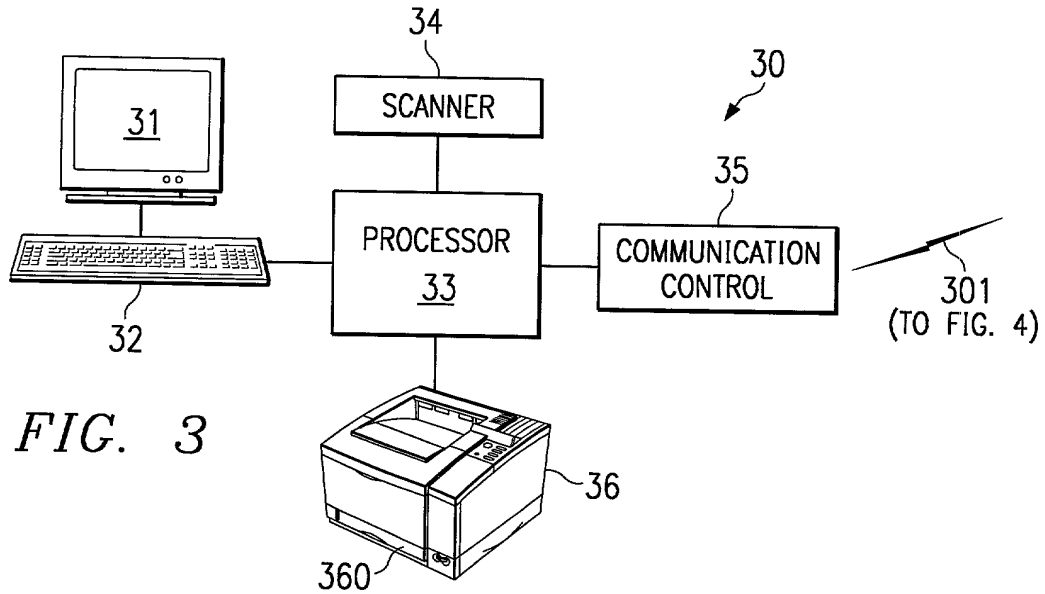


FIG. 6

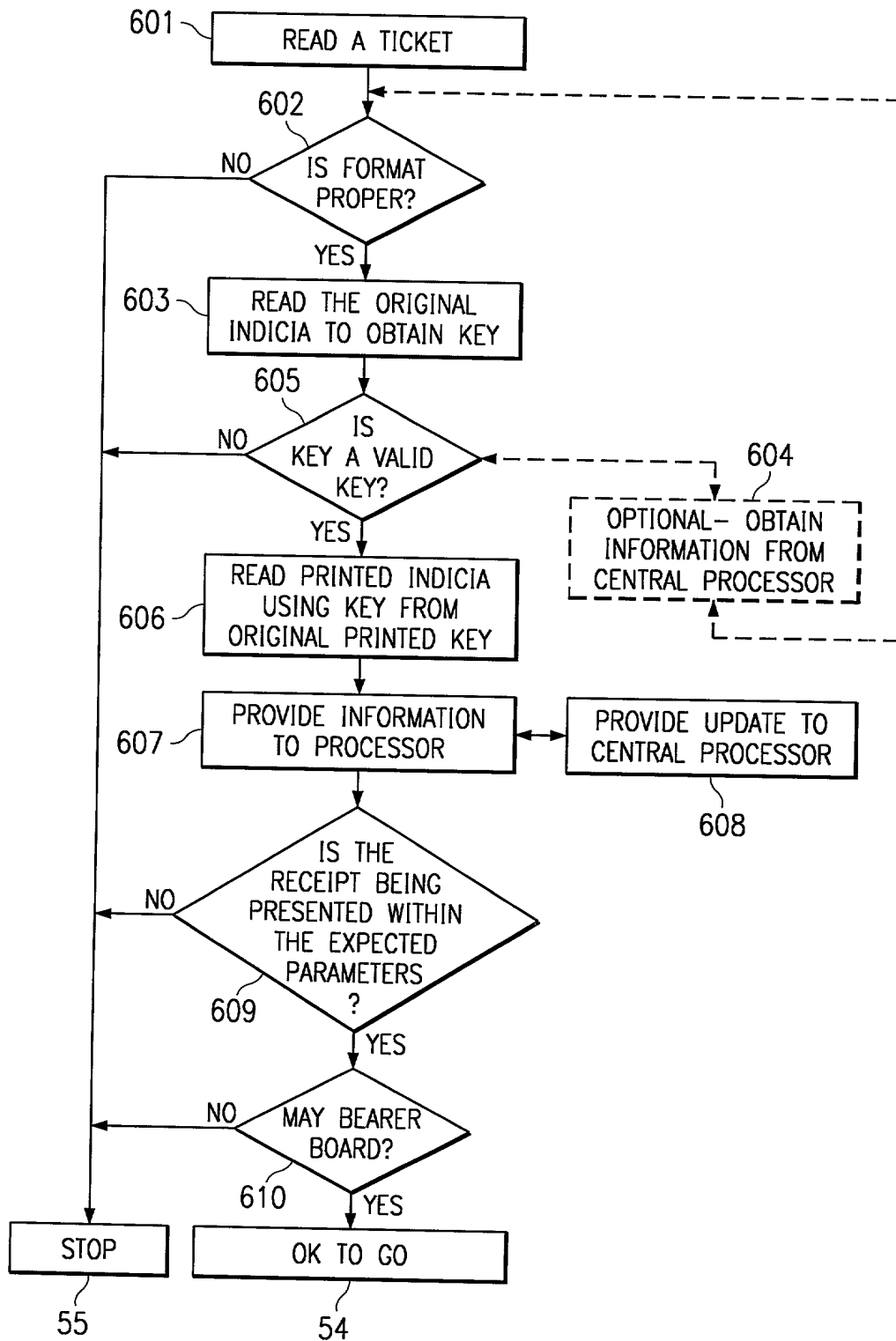


FIG. 7A

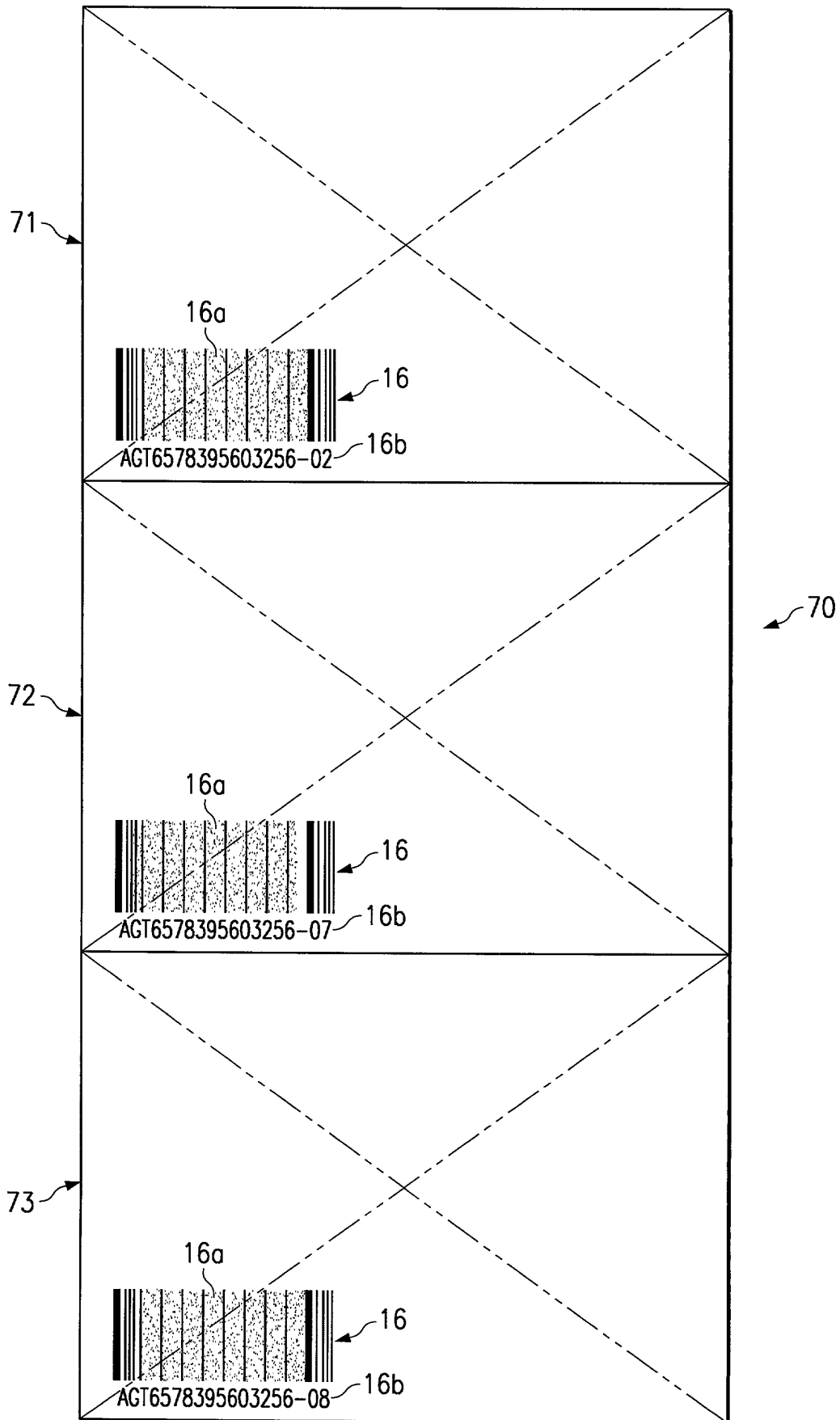


FIG. 7B

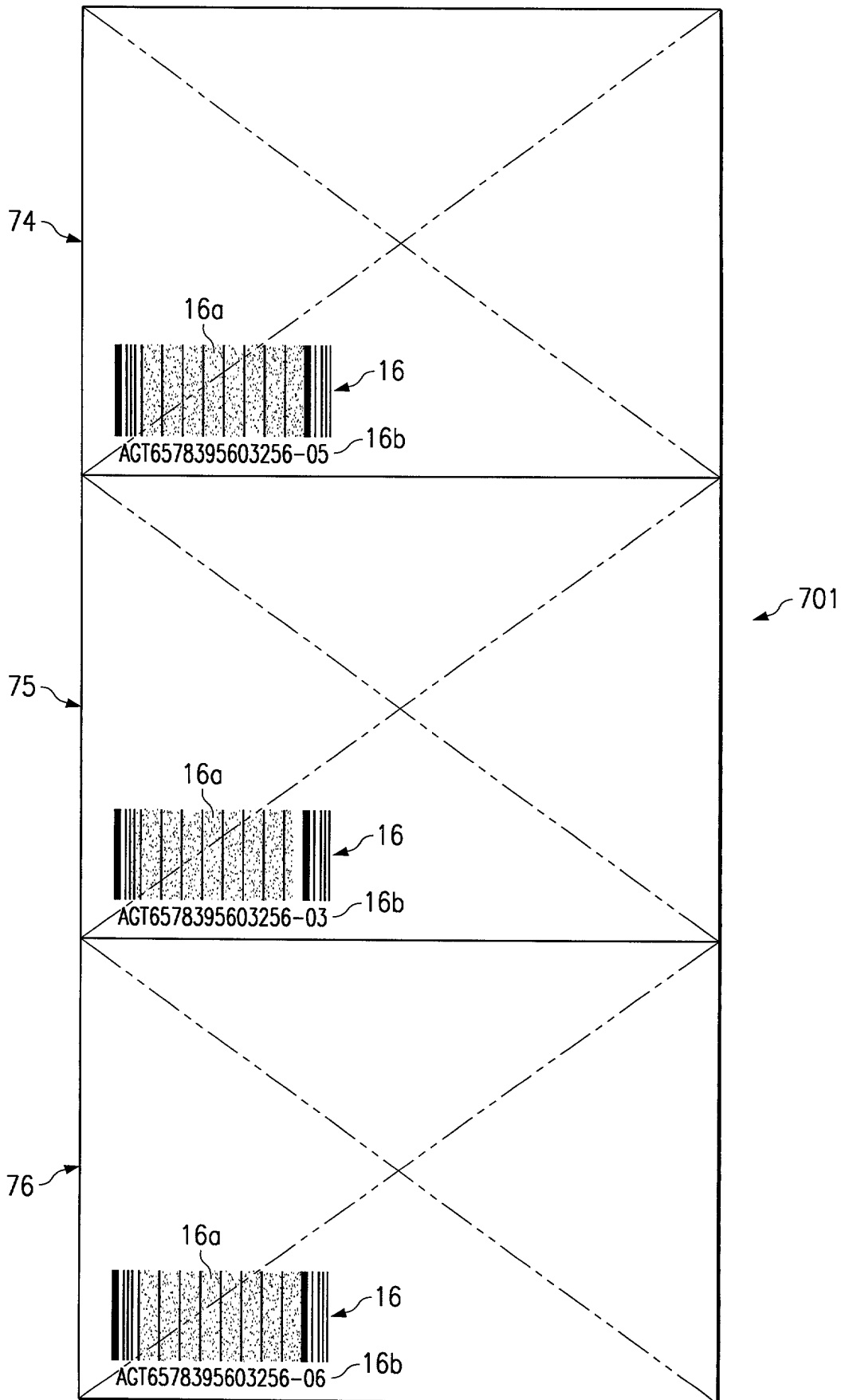


FIG. 7C

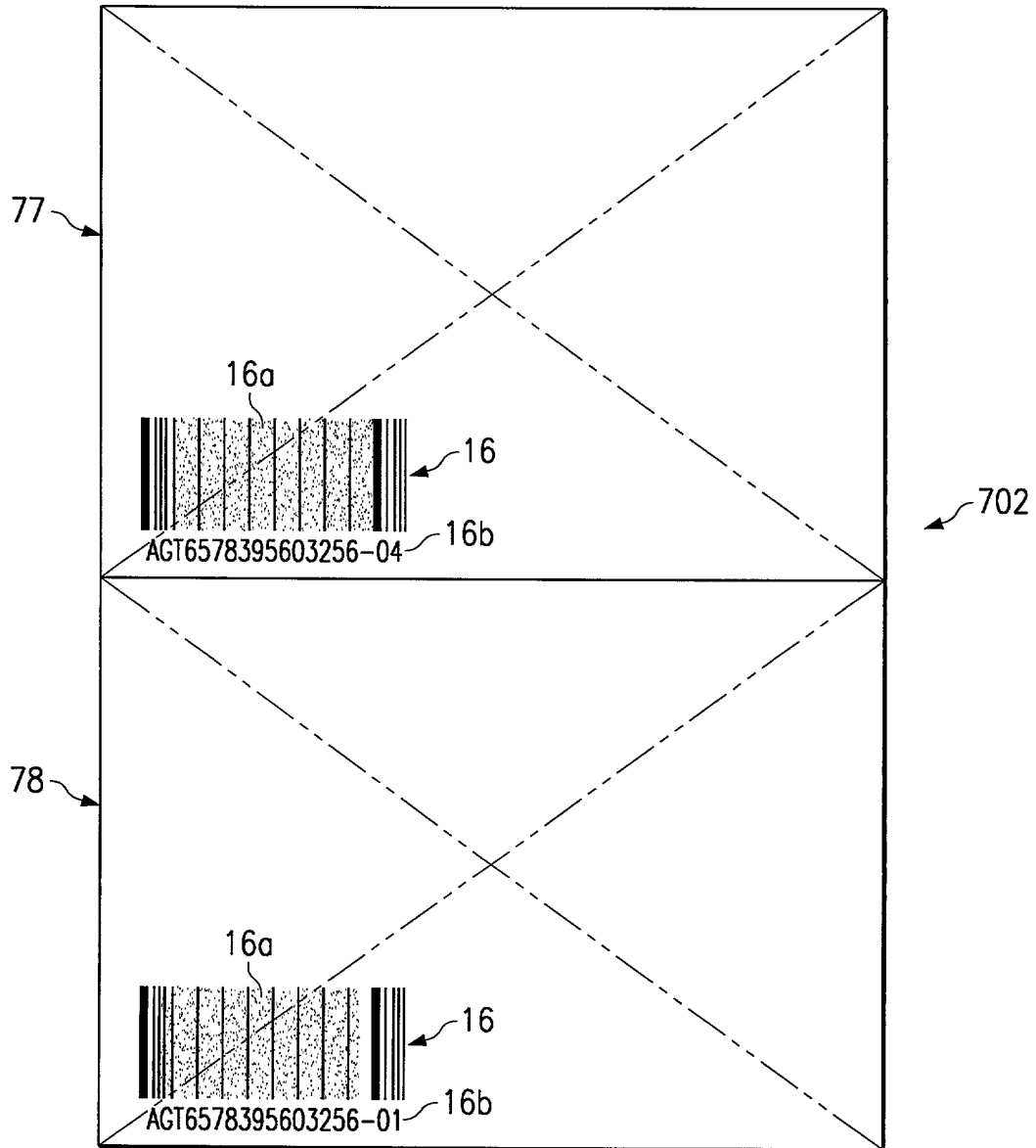


FIG. 8A

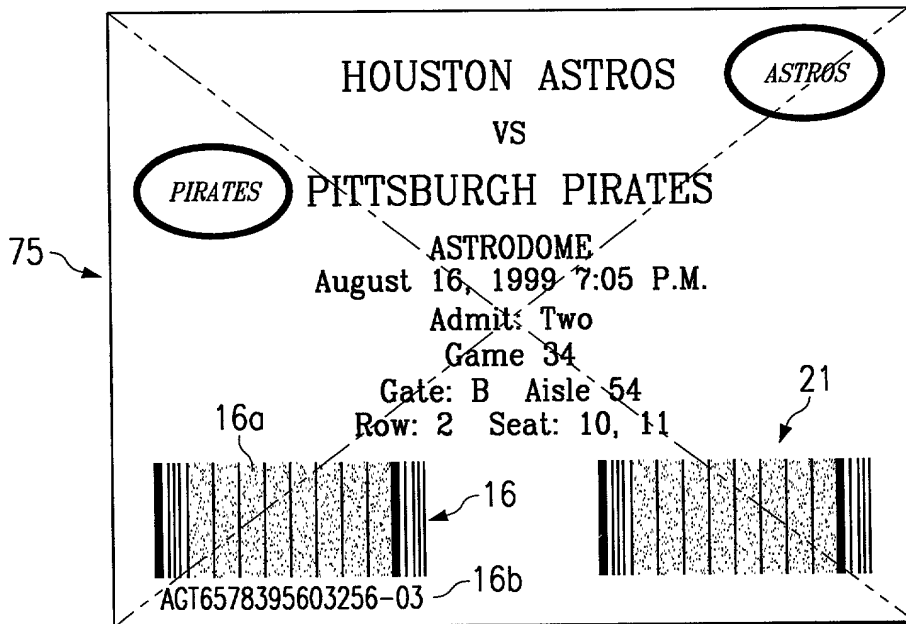


FIG. 8B

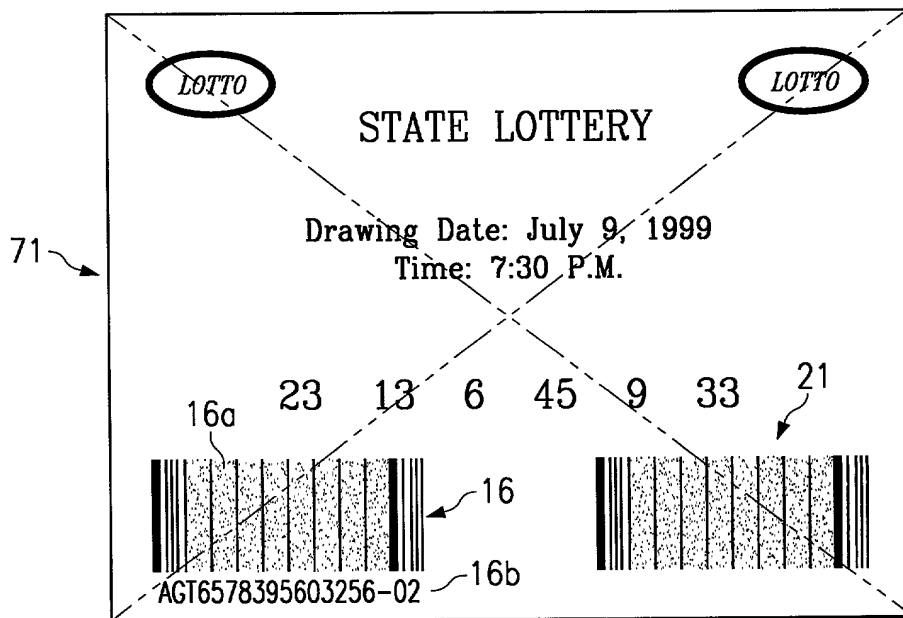


FIG. 8C

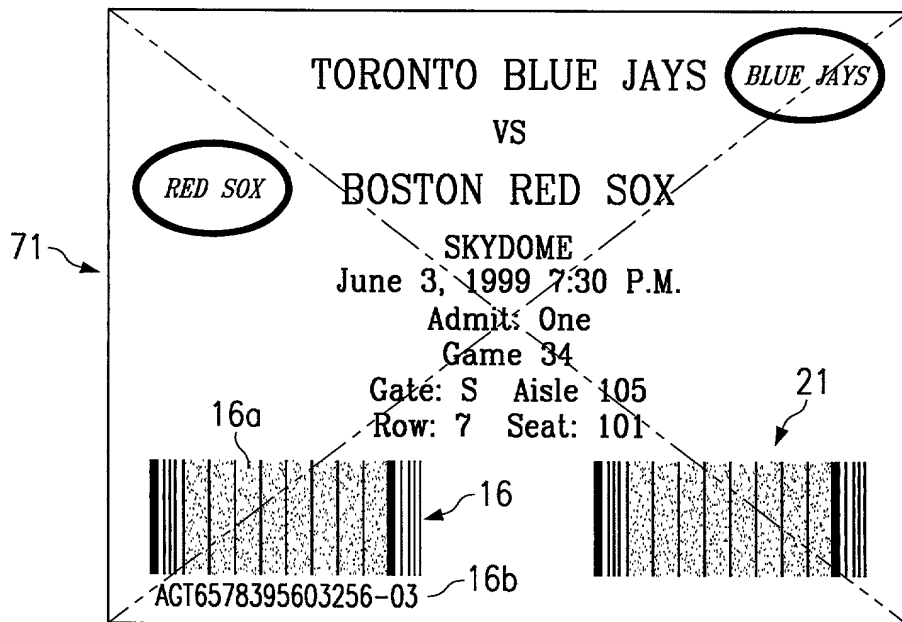
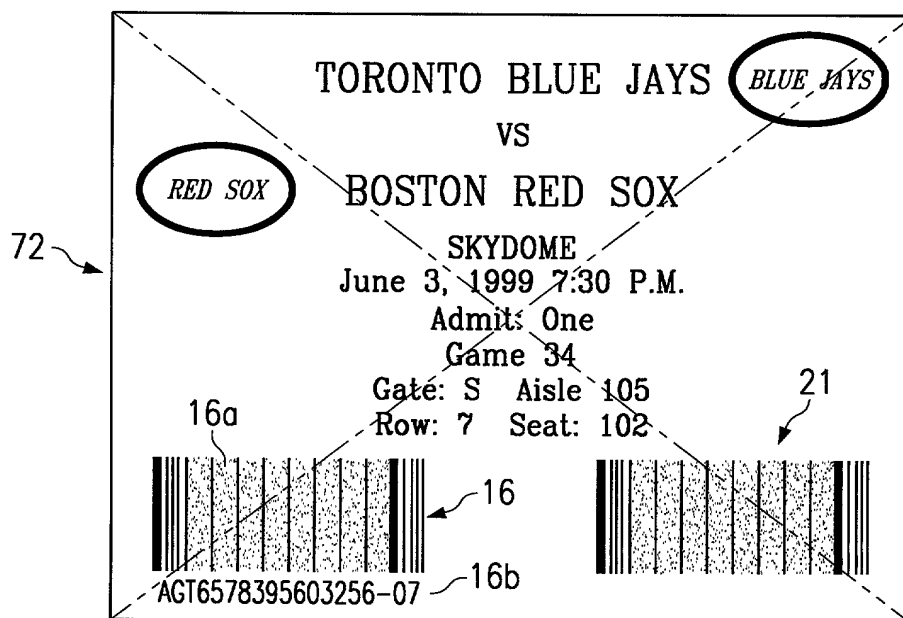


FIG. 8D



COMBINED DECLARATION AND POWER OF ATTORNEY

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION, OR C-I-P)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type:

- ☒ original.
- ☐ design.
- ☐ supplemental.
- ☐ national stage of PCT.
- ☐ divisional.
- ☐ continuation.
- ☐ continuation-in-part (C-I-P).

INVENTORSHIP IDENTIFICATION

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (*if only one name is listed below*) or an original, first and joint inventor (*if plural names are listed below*) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTION

VERIFYING THE AUTHENTICITY OF PRINTED DOCUMENTS

SPECIFICATION IDENTIFICATION

The specification of which:

- (a) ☒ is attached hereto.
- (b) ☐ was filed on _____, as ☐ Serial No. 0 / _____ or
☐ _____ and was amended on _____ (*if applicable*).
- (c) ☐ was described and claimed in PCT International Application No. _____ filed on
_____ and as amended under PCT Article 19 on _____ (*if any*).

SUPPLEMENTAL DECLARATION (37 CFR 1.67(b))

- ☐ I hereby declare that the subject matter of the
- ☐ attached amendment
- ☐ amendment filed on _____.

was part of my/our invention and was invented before the filing date of the original application, above identified, for such invention.

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

- ☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 CFR 1.98.

PRIORITY CLAIM (35 U.S.C. § 119(a)-(d))

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

- (d) ☐ no such applications have been filed.
- (e) ☐ such applications have been filed as follows.

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING DAY, MONTH, YEAR	PRIORITY CLAIMED UNDER 35 USC 119	
			[] Yes	[] No
			[] Yes	[] No
			[] Yes	[] No

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)

(35 U.S.C. § 119(e))

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER	FILING DATE
_____/_____/_____	____/____/____
_____/_____/_____	____/____/____
_____/_____/_____	____/____/____

**CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)
UNDER 35 U.S.C. § 120**

☐ The claim for the benefit of any such applications are set forth below:

APPLICATION SERIAL	FILING DATE	STATUS

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

David H. Tannenbaum, Reg. No. 24,745;
Michael A. Papalas, Reg. No. 40,381;
R. Ross Viguet, Reg. No. 42,203;
Michael J. Fogarty, III, Reg. No. 42,541;
Brian A. Carlson, Reg. No. 37,793,
Jody Bishop, Reg. No. 44,034

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Dallas, Texas 75201.

DIRECT TELEPHONE CALLS TO:

David H. Tannenbaum
(214) 855-8334

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other document.

Full name of sole or first inventor: Salim G. Kara

Inventor's signature

G. KARA

Country of Citizenship: Canada

Date: June 2, 1999

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